CHRONIC APPENDICITIS COMPLICATING PULMONARY TUBERCULOSIS.

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All systematic writers upon pulmonary tuberculosis emphasize the frequency of gastric symptoms. Many claim that indigestion, in its various forms, is a necessary concomitant of the disease. The digestive organs are of utmost importance in all chronic diseases because they represent nutrition. In tubercular patients nutrition is almost invariably faulty. They are poor eaters, whether through poverty or habit. Forced feeding and other similar methods have fallen into partial disuse because of their supposed injurious effect upon the digestive organs; and yet, from the standpoint of nutrition they represent an important principle.

I wish to call attention to a point that, according to my observation, has been frequently overlooked. That point is the frequent existence of chronic tubercular appendicitis. I believe the appendix to be especially obnoxious to tubercle. When operating for tubercular peritonitis I have found the appendix more completely involved than other parts of the bowel and mesentery. In the cases to which I refer the classical symptoms of acute appendicitis are absent. The rigidity is not marked, may be very difficult to detect, as if the muscles had become accustomed to the irritation beneath and were no longer on guard. The fever present depends entirely upon the pulmonary condition. Pain in the right iliac is absent. The patient is convinced the stomach is the organ at fault. He cannot take much food without distress; is inclined to eat sparingly. There may be attacks of nausea, perhaps accompanied by vomiting from time to time. He will be constipated and will obtain relief from cathartics. He may have pain in the stomach and many indications of gastric or duodenal ulcer, without occult blood. When the gastric contents are tested there will usually be found hyper-acidity. There may be occasional exacerbations with a little rigidity and tenderness over the appendix. The patient will progress favorably for a time and will then have one of his accustomed attacks of what he terms indigestion which, he insists, will be relieved by a purge. He thinks that if his stomach could only be cured he would recover from his lung trouble—and his opinion is pretty nearly correct. He has been treated by lavage, by dieting, by pepsin and acids, by bismuth and by all sorts of dope. One tries to fatten him and succeeds for a time, then the stomach rebels and he relapses.

He has chronic tubercular appendicitis. If his appendix is removed his indigestion will vanish. It may require some weeks' time for him to recover his power of digestion, especially to overcome the habit of gas formation, but he will get well. I have been astonished to note that several consumptives for whom I had made an unfavorable prognosis entirely recovered from the pulmonary disease after removal of the appendix. I do not know why. Perhaps the cause of the persistent irritation of the digestive organs had been removed, thus giving the patient power to respond to treatment that had, hitherto, been unavailing. It is not to be assumed for a moment that chronic appendicitis is the basis of all, or of most, cases of indigestion. I do believe that patients who suffer from pulmonary tuberculosis also are burdened with tubercular appendices in more instances than we have been accustomed to recognize. In many of these cases the removal of the appendix will facilitate a cure of the lung disease.

Indeed, it would appear to me that most cases of *chronic* appendicitis are tubercular. I do not mean those which have frank attacks of recurrent appendicitis, but the sluggish, ill-defined cases that are so difficult to diagnose. While discussing this problem with Dr. Browning he informed me that Dr. Rea Smith had expressed to him the same opinion. Dr. Beebe, of Ann Arbor, has recently called attention to the same point. Permit me to report two cases, selected from quite a number, to illustrate two types. A young man referred to me by Dr. Browning came to my Sanatorium very ill with pulmonary tuberculosis. He improved quite a bit, then had what he termed a bilious attack (whatever that is). Had been subject to such for years. Took calomel, on his own responsibility, and claimed he felt all right. However, he had lost weight, his appetite was poor, he felt some indefinite gastric distress. He lost what he had gained and his lungs were more moist and irritable. During a year this history repeated itself. On the whole he improved but each "bilious" attack robbed him of some of his chances. What is biliousness? Pathology answereth not. If modern medicine teaches anything it inculcates the fact that gastric symptoms depend upon a definite pathology. To the layman and to the thoughtless doctor they mean calomel. We have learned that cathartics are absolutely contra-indicated in all acute abdominal conditions. We still have to learn, most of us, that purges should be avoided in pulmonary tuberculosis. There are better methods of "moving the bowels." Three years ago I removed this man's appendix. He promptly recovered from his pulmonary disease and has remained well. Two and a half years ago I did an appendectomy for a young woman who was in the early stage of pulmonary tuberculosis. She had been under my care for months without improvement. Her gastric secretions were normal but her stomach was irritable; no appetite, occasional nausea; much flatulence; muddy skin; slight daily fever. The symptoms were covered by the old phrase "intestinal indigestion." She had taken a course of what her physician called intestinal antisepsis, with purges from time to time. Her lung infection was advancing because mal-nutrition sapped resistance. There were absolutely no symptoms of appendicitis, other than these above recorded—no tenderness, no rigidity. After the operation she rapidly improved and remains well.

I do not believe that administration of ether is contra-indicated by pulmonary tuberculosis. A somewhat extensive experience has taught me otherwise. I have never witnessed "shock" in any consumptive upon whom I have operated. One

last point: when removing an appendix from a tubercular patient we should be careful to remove any enlarged glands in the immediate vicinity, otherwise a sinus is apt to follow. I have noted one instance in my own practice and one, each, in the practice of two other surgeons. Those of us who conduct Sanatoria should do, or have done, all needful surgery in our cases of pulmonary tuberculosis. As I have pointed out upon another occasion these people require a good deal of nose and throat work in order to afford them (some of them) the best chance of recovery from their lung disease.*

NOTES ON SYPHILIS OF THE CENTRAL NERVOUS SYSTEM.*

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It seems evident, even to the most critical, that syphilis, as we know it, is the result of invasion of the body by the treponema pallida. This organism has been isolated from the primary lesion and from the tissues of the body in the secondary and tertiary periods. It has been secured in pure culture and re-inoculated into susceptible animals has reproduced the disease in the characteristic forms peculiar to the animals experimented upon. That the organism has not been found in the affected tissues in certain of the later appearing lesions is no reason for believing that these structural changes require the intevention of any special condition for their development. They can all be explained as end results of the primary tissue reaction.

It has been shown also that the disease may be propagated without the occurrence of the primary lesion, namely, by inoculation directly into the heart, testicle or blood stream of susceptible animals. Syphilis has been transmitted in man during the operation of transfusion of blood and by accidental wounds received at operation without a chancre appearing at the point of inoculation. This evidence and the not infrequent appearance of syphilis in individuals who have no remembrance of ever having had chancre has led some authorities to believe that, under certain conditions, it may be possible for the spirochete to gain access to the body through an apparently unbroken skin. Certain factors not understood at present render inoculation by other than the usual manner, i. e., into surfaces covered by flat epithelium and well supplied with lymphatics, a rather difficult matter.

The evidence justifying the belief in extraordinary methods of inoculation is sufficient, however, to cause one to assume the possibility of syphilis being present in any case presenting symptoms which may be explained by the presence of this disease even though the history of the patient is undeniably negative.

If one may base an opinion, in this matter, on the known behavior of the treponema pallida during its later residence in the body it would seem probable that, in an otherwise healthy individual with normal resisting power, the organism must first be able to secure a suitable resting place in the lymphatic tissues before its habitancy of the body becomes tenable. Beginning with the initial lesion the reaction produced in the tissues by the presence of the spirochete is substantially the same throughout. Whether the effect noted be in the skin, parenchymatous glands or in the central nervous system or its enveloping membranes the presence of the organism in the peri-vascular lymph spaces seems necessary before the characteristic reaction begins. It would thus seem reasonable to believe that syphilis is primarily a lymphatic disease. The early involvement of the lymphatic tissues, the length of time necessary for the disease to become disseminated throughout the body and its apparent progression and persistence in the lymph glands, peri-vascular lymph spaces and lymph cisterns of the central nervous system furnishes evidence in support of this idea.

The later manifestations of the disease are not caused by the organism per se but are determined by the encroachment of new formed tissue accretions upon important functioning structures. Thus partial or complete obliteration of blood vessels with consequent changes due to a lack of sufficient blood supply; the presence of gummatous infiltration causing pressure upon vessels otherwise healthy or upon other structures disturbing their normal physiological function determines the clinical symptoms which occur throughout the course of the disease.

Positive evidence in support of the belief that the central nervous system is involved very early in syphilis is accumlating rapidly. The idea is not a new one for as long ago as 1880 Lang[1] stated that the headache, lassitude and lethargy present in the second stage of this disease were due to meningeal and nervous system involvement. It has been left to improved methods of investigation, however, to show how often and to what extent this involvement occurs.

Routine examination of the cerebro-spinal fluid and more careful and complete investigation of the nervous system, especially those portions of it connected with the organs of sight and hearing, have furnished that positive evidence which was denied to earlier observers. Thus Ravaut,[1] in 118 cases of acute syphilis, noted changes in the spinal fluid in 71; Eicke,[2] in 136 cases in the primary and secondary stages found alterations in the spinal fluid in 60. Wile and Stokes,[1] Altman and Dreyfus,[1] Fahr[1] and others have noted similar changes. In many of these cases only a single examination was made and the figures, consequently, do not exactly represent the number in which changes might have been found had a number of examinations been undertaken.

Wile and Stokes[3] have recently shown that careful examination of the second and eighth nerves together with an examination of the general nervous system will add to the number having a positive spinal fluid. These observers examined twenty-six cases in this manner, and state: "From the point of view of all the methods used by us to ar-

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* Read before the San Francisco County Medical Society, September 14 1915.